

FA-8553
Intel Pentium® M /Intel® Celeron® M
Embedded CPU Board

USER'S MANUAL (V1.0)

健昇科技股份有限公司

JS AUTOMATION CORP.

台北縣汐止市中興路 100 號 6 樓

6F, No.100, Chungshin Rd.

Shitsu, Taipei, Taiwan, R.O.C.

TEL : 886-2-2647-6936

FAX : 886-2-2647-6940

<http://www.automation.com.tw>

E-mail : control.cards@automation.com.tw

CONTENTS

1.	Forward.....	3
2.	Features.....	4
3.	Specifications.....	5
4.	Jumper and Connector Locations / Dimensions	6
4.1	Jumper and Connector Locations	6
4.2	Dimensions	7
5.	Connector and Jumper setting	8
5.1	CN1/CN2:COM1/COM2 PORT.....	8
5.2	CN3: VGA PORT	8
5.3	CN4: KB/MS Mini Din PORT	8
5.4	CN5/CN6/CN16:USB Connector.....	8
5.5	CN7:VGA Connector	9
5.6	CN8:Audio Connector.....	9
5.7	CN9/CN12/CN23/CN24: COM3/COM4/COM5/COM6.....	9
5.8	CN10/CN11:USB PORT	9
5.9	CN13/CN14:Inverter Connector	10
5.10	CN15: LVDS2 Connector /CN17:LVDS1 Connector	10
5.11	CN18:GPIO Connector.....	10
5.12	CN19:Temperature Sensor	10
5.13	CN20: Power Output Connector.....	11
5.14	CN21: LED Output Connector	11
5.15	CN22 : SMBUS Connector	11
5.16	CN25:Power Input (12V)	11
5.17	CN26: Power LED Connector.....	11
5.18	CN27: IDE Active LED.....	11
5.19	CN28: Compact Flash Socket.....	11
5.20	CN29: K/B Lock Connector	11
5.21	IDE1: Primary HDD interface /IDE2:Secondary HDD interface	12
5.22	LPT1: PRINT Connector.....	13
5.23	FAN1/FAN2: CPU FAN	13
5.24	JP1/JP5: LVDS Voltage	13
5.25	JP2: CPU VCCP Select.....	13
5.26	JP3: CPU VCCA Select.....	13
5.27	JP4: COMS Setup.....	14
5.28	SW1: Reset Button	14
5.29	SW2: Power On Button	14
6.	Ordering Information.....	15

1. **Forward**

Thank you for your selection of FA-8553 cpu card.

Any comment is welcome,

please visit our website: www.automation.com.tw for the up to date information.

2. Features

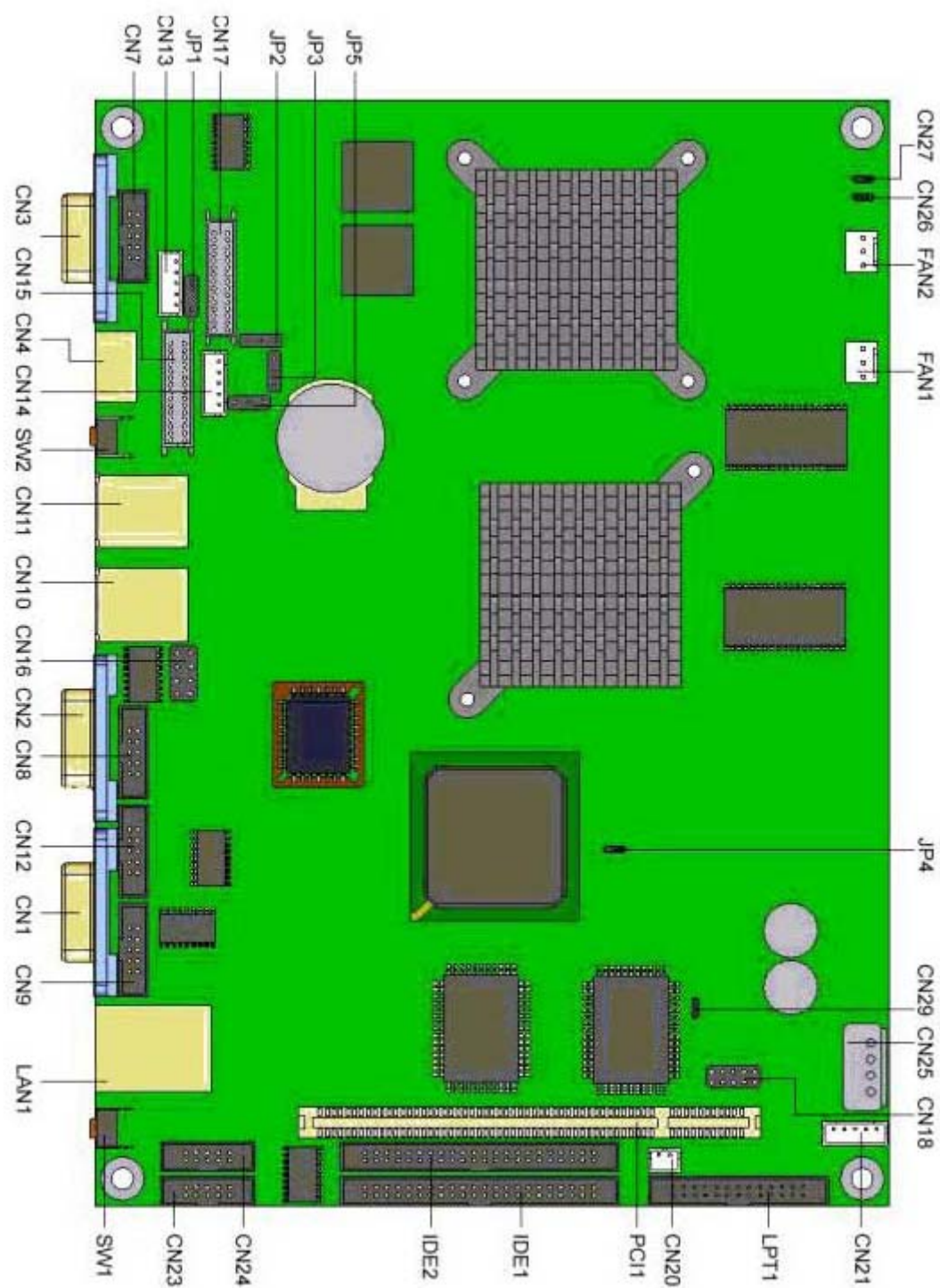
- Support On-board 479 uFC-BGA ULV Intel ® Celeron ®M or Intel ® Celeron ® M or 479 uFC-PGA Intel® Pentium® M to 1GHz+
- On Board 512MB DDR Memory
- Dual Independent LVDS Display
- High Performance Intel Ethernet (10Base-T/100Base-TX or Gigabit Ethernet)
- 6 USB, 6 COM, Multi-IO Supported
- Type II Compact Flash for Embedded OS (Option)
- Compact 5.25” ESB Form Factor, Low Profile Design
- 8 bit TTL IO
- Wide Temperature Embedded SBC (-20 to +60 degree C)
- 12V DC only

3. Specifications

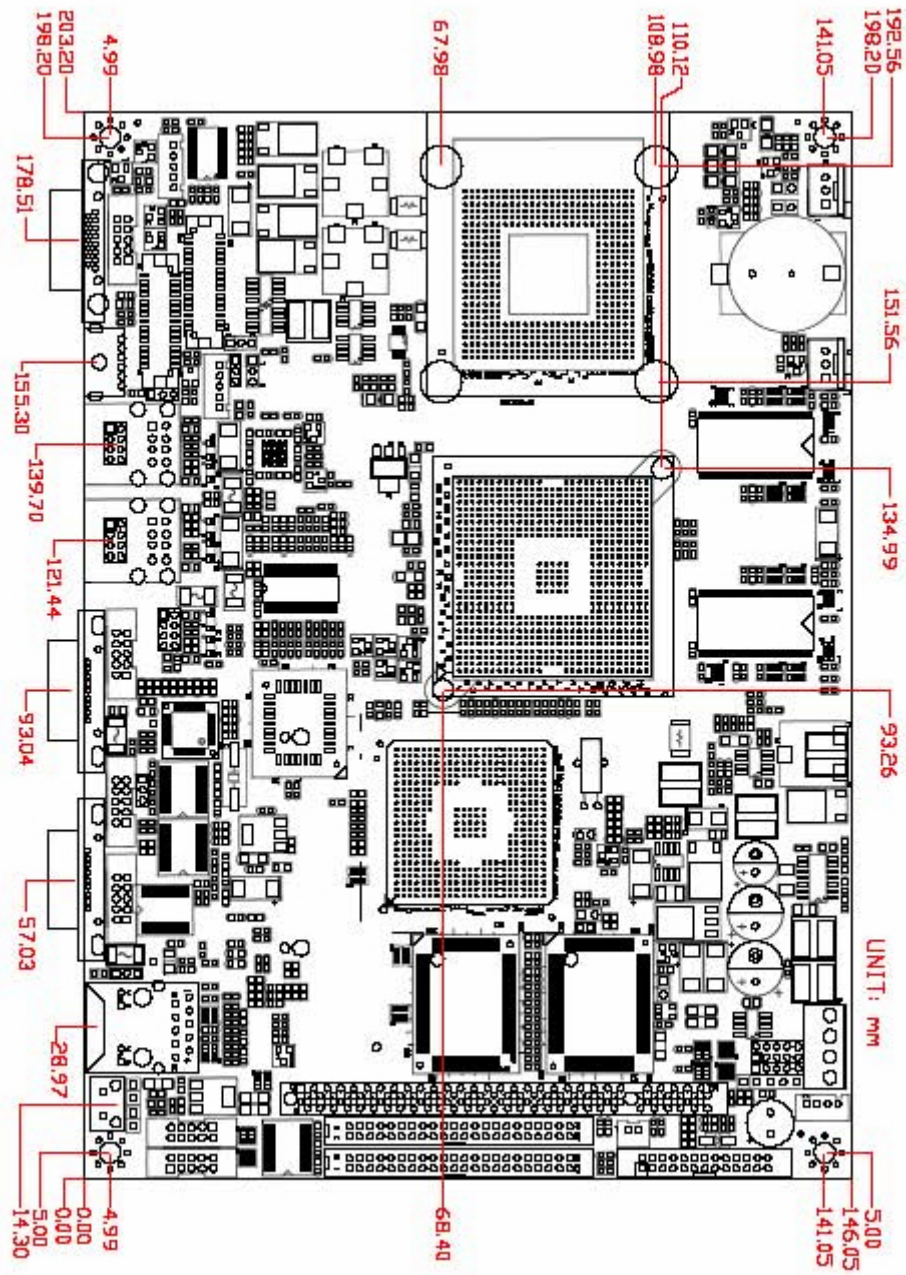
- CPU : Intel® Pentium / Celeron® M
- System Chipset : Intel ® 855GM/852GM
- System Memory : On Board DDR Memory (512MB)
- Display : Intel GMCH Integrated Graphics Controller with 64MB sharing memory.
- SSD : Compact Flash Connector (under secondary master device)
- Ethernet : ICH4 embedded MAC with Intel 82562EZ PHY 10/100 Ethernet Controller or Intel 82540EM Gigabit LAN Chipset
- Audio :
 - 18 Bit Audio Codec Chip
 - AC 97 2.3 complaint interface
 - Support Line_in / Line_out / Mic_in
 - Daughter Board 2Watts Amplifier (optional)
- I/O :
 - USB Port : 6 , USB 2.0 ports
 - Serial Port : 6 , high speed 16550 fast UART serial ports with 12V/5V Power
 - IDE Interface : 2, Ultra ATA100 interface
 - FDD Interface : 1, supports 1.44/2.88MB and 3-mode floppy drive
 - Printer Port : On board printer port with SPP/EPP/ECP mode
 - Keyboard / Mouse : 2 , PS/2
 - TTL IO : 8, TTL IO ports
- PCI Slot Extension : 32 bit PCI slot for Extension
- H/W Monitoring : Winbond 83627HF support 7 voltage, 3 temperature and 2 fan-speed control
- Watchdog Timer : Software Programmable Watchdog Timer with 1sec/minute timeout intervals range from 1 to 255 seconds/minutes
- Real Time Clock : 256 bytes CMOS RAM built-in ICH4 chipset Backup by non-rechargeable Lithium cell battery
- Power Requirement : 12V Single Power Required
- Temperature : Operating: -20 to +60 degree C
- Relative Humidity : Operating: 10% to 80% (non-condensing)

4. Jumper and Connector Locations / Dimensions

4.1 Jumper and Connector Locations

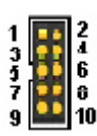


4.2 Dimensions

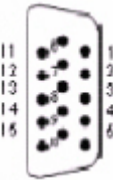


5. Connector and Jumper setting

5.1 CN1/CN2:COM1/COM2 PORT

	1	DCD	6	DSR
	2	RX	7	RTS
	3	TX	8	CTS
	4	DTR	9	RI
	5	GND		

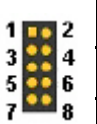
5.2 CN3: VGA PORT

	1	R	2	G
	3	B	4	NC
	5	GND	6	GND
	7	GND	8	GND
	9	VCC	10	GND
	11	NC	12	V_DATA
	13	HSYNC	14	VSYNC
	15	V_CLK		

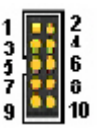
5.3 CN4: KB/MS Mini Din PORT

	1	KDATA	2	MDATA
	3	KMGND	4	KMVCC
	5	KCLK	6	MCLK
	7	GND	8	GND
	9	GND		

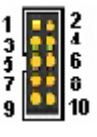
5.4 CN5/CN6/CN16:USB Connector

	1	5VSB	2	GND
	3	DATA	4	DATA+
	5	DATA+	6	DATA
	7	GND	8	5VSB

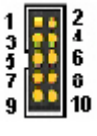
5.5 CN7:VGA Connector

	1	R	2	VCC
	3	G	4	GND
	5	B	6	NC
	7	HSYNC	8	V_DATA
	9	VSYNC	10	V_CLK

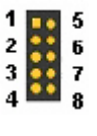
5.6 CN8:Audio Connector

	1	IN_L	2	AGND
	3	AGND	4	IN_R
	5	OUT_L	6	AGND
	7	AGND	8	OUT_R
	9	MIC IN	10	AGND

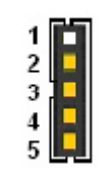
5.7 CN9/CN12/CN23/CN24: COM3/COM4/COM5/COM6

	1	DCD	2	DSR
	3	RX	4	RTS
	5	TX	6	CTS
	7	DTR	8	RI
	9	GND	10	NC

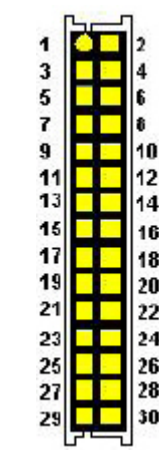
5.8 CN10/CN11:USB PORT

	1	5VSB	5	GND
	2	DATA	6	DATA+
	3	DATA+	7	DATA
	4	GND	8	5VSB
	G1	GND	G2	GND
	G3	GND	G4	GND

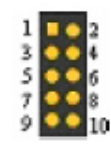
5.9 CN13/CN14: Inverter Connector

	1	P12V
	2	GND
	3	VCC
	4	GND
	5	ON/OFF

5.10 CN15: LVDS2 Connector /CN17:LVDS1 Connector

	1	LCD+	2	LCD+
	3	YAP0	4	YAM0
	5	YAP1	6	YAM1
	7	YAP2	8	YAM2
	9	YAP3	10	YAM3
	11	CLKAP	12	CLKAM
	13	NC	14	NC
	15	GND	16	GND
	17	YBP0	18	YBM0
	19	YBP1	20	YBM1
	21	YBP2	22	YBM2
	23	YBP3	24	YBM3
	25	CLKBP	26	CLKBM
	27	(DDCPCLK)	28	(DDCPDATA)
	29	GND	30	GND

5.11 CN18:GPIO Connector

	1	GPI4	2	GPOP0
	3	GPI5	4	GPOP1
	5	GPI6	6	GPOP2
	7	GPI7	8	GPOP3
	9	GND	10	VCC

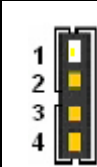
5.12 CN19:Temperature Sensor

	1	Sensor+
	2	GND

5.13 CN20: Power Output Connector

	1	VCC
	2	GND

5.14 CN21: LED Output Connector

	1	IDE LED
	2	VCC3
	3	Power LED
	4	GND

5.15 CN22 : SMBUS Connector

5.16 CN25:Power Input (12V)

	1	VIN
	2	VIN
	3	GND
	4	GND

5.17 CN26: Power LED Connector

	1	LED+
	2	LED-

5.18 CN27: IDE Active LED

	1	LED+
	2	LED-

5.19 CN28: Compact Flash Socket

(Refer to the specification of CF card)

5.20 CN29: K/B Lock Connector

	1	Keylock
	2	GND

5.21 IDE1: Primary HDD interface /IDE2:Secondary HDD interface

1	2	1	LDERST	2	GND
3	4	3	PD7	4	PD8
5	6	5	PD6	6	PD9
7	8	7	PD5	8	PD10
9	10	9	PD4	10	PD11
11	12	11	PD3	12	PD12
13	14	13	PD2	14	PD13
15	16	15	PD1	16	PD14
17	18	17	PD0	18	PD15
19	20	19	GND	20	NC
21	22	21	PDREQ	22	GND
23	24	23	PIOW	24	GND
25	26	25	PIOR	26	GND
27	28	27	PHDRDY	28	GND
29	30	29	PDAK	30	GND
31	32	31	IRQ14	32	NC
33	34	33	PDA1	34	NC
35	36	35	PDA0	36	PDA2
37	38	37	PDCS1	38	PDCS3
39	40	39	HD_LED1	40	GND
41	42	41	VCC	42	VCC
43	44	43	GND	44	GND

5.22 LPT1: PRINT Connector

1	2	1	STB	2	AFD
3	4	3	D0	4	ERR
5	6	5	D1	6	INIT
7	8	7	D2	8	SLIN
9	10	9	D3	10	GND
11	12	11	D4	12	GND
13	14	13	D5	14	GND
15	16	15	D6	16	GND
17	18	17	D7	18	GND
19	20	19	ACK	20	GND
21	22	21	BUSY	22	GND
23	24	23	PE	24	GND
25	26	25	SLCT	26	GND

5.23 FAN1/FAN2: CPU FAN

1	1	GND
2	2	12V
3	3	Sense

5.24 JP1/JP5: LVDS Voltage

1-2	3.3V
2-3	5V

5.25 JP2: CPU VCCP Select

1-2	Banias
2-3	Dothan

5.26 JP3: CPU VCCA Select

1-2	Banias
2-3	Dothan

5.27 JP4: COMS Setup

	Short	Clear
	Open	Normal

5.28 SW1: Reset Button

	ON	Reset
	OFF	Normal

5.29 SW2: Power On Button

	ON	PWR ON/OFF
	OFF	Normal

6. **Ordering Information**

<u>PRODUCT</u>	<u>DESCRIPTIONS</u>
JD50FA8553	FA-8553A Celeron M 1GHz 852GM
JD50FA8553B	FA-8553B Celeron M 600MHz 852GM